REMARKS

Overview

The Examiner responded in the prior Office Action as follows: rejected claims 1-70 under 35 U.S.C. § 102(b) as being anticipated by Carpenter et al. (U.S. Patent No. 5,910,799).

Applicants hereby amend claims 1, 24, 51 and 68 in order to clarify the subject matter of their invention. Thus, claims 1-70 continue to be pending.

Discussion

The Examiner has rejected each of the previously pending claims 1-70 under 35 U.S.C. 102(b) as being anticipated by Carpenter. However, each of the pending claims as rejected includes features and provides functionality not disclosed by Carpenter, and thus is allowable over Carpenter.

Carpenter is generally directed to a portable data processing system for providing a location-sensitive user interface ("UI"), such as by acquiring a geographic location of the portable data processing system and selecting a UI environment associated with the acquired location. Carpenter indicates that "[a]s used herein, the term 'user interface environment' refers" to a state of a user interface such as "a particular desktop with particular icons displayed on that desktop," or that "a software application may be selected as the user interface environment [for use] . . . by launching an instance of the selected software application." (Carpenter, 4:38-60.) While Carpenter appears to disclose that a particular software application may have distinct UIs for use in providing different types of functionality, Carpenter appears to lack any teaching, suggestion, or motivation to having multiple alternative UIs for use in providing a single type of functionality for different types of users and their needs. More generally, Carpenter appears to lack any teaching, suggestion, or motivation to automatically characterize properties of multiple alternative predefined UIs for a software application for any purpose, let alone to determine which alternative predefined UI may be appropriate for use with particular current needs of a user.

Conversely, at least some of the pending claims are generally related to automatically characterizing properties of predefined UIs in various ways, and then using those characterizations to provide an appropriate UI based on current conditions. For example,

independent claim 1 as amended automatically characterizes predefined UIs based at least in part on groups of I/O ("input/output") devices that the various UIs are configured to use, such as to allow an appropriate UI to be selected from multiple alternatives based on I/O devices that are currently available or appropriate. In particular, claim 1 as amended recites "for each of multiple alternative predefined user interfaces of a software application that are available for performing a common activity using distinct groups of one or more I/O devices, automatically characterizing multiple properties of the predefined user interface that include one or more properties reflecting that the predefined user interface is configured for use with a group of one or more I/O devices, such that the predefined user interfaces are each configured for use with a distinct group of I/O devices." Claim 1 further recites, "after the characterizing of the multiple properties of each of the predefined user interfaces, automatically and dynamically determining one or more current needs for a user interface to be presented to the user on the computing device, the determined current needs being based at least in part on current conditions at a time of the determining and corresponding to one or more I/O devices of the computing device; and automatically selecting for presentation to the user one of the predefined user interfaces whose characterized properties correspond to the dynamically determined current needs, such that the group of I/O devices for which the selected predefined user interface is configured corresponds to the one or more I/O devices of the computing device for the determined current needs." For example, if the computer automatically determines that a user is currently performing an activity that completely occupies the user's vision (such as driving), then the computer may automatically determine characterize a particular available alternative voice-based UI as being appropriate for non-visual interactions based on using microphone and speaker I/O devices (rather than display monitors and keyboards, for example), and automatically select that voice-based UI for current interactions with the user.

However, Carpenter fails to provide any teaching, suggestion or motivation for switching between alternative UIs corresponding to various I/O devices. More generally, as previously noted, Carpenter appears to lack any suggestion or motivation to automatically characterize multiple properties of multiple predefined user interfaces for any purpose, let alone to automatically characterize groups of I/O devices used by alternative predefined UIs. The Examiner has asserted that lines 16-25 of column 5 and lines 15-30 of column 6 (and previously lines 20-25 of column 2) of Carpenter teach such characterizing of properties of predefined user

interfaces, and points to actions of tracking locations where users have previously used UIs and the associated security of data presented via UIs. However, neither historical location usage nor data security are properties of a particular UI, and merely tracking usage data is not characterizing a property of a UI. The Microsoft Computer Dictionary, Fifth Edition, for example, indicates that a property is "a characteristic or parameter of an object . . . Properties of a file, for example, include type, size and creation date and can be identified by accessing the file's property sheet," and Merriam-Webster's Collegiate Dictionary, for example, defines a property as "a quality or trait belonging and especially peculiar to an individual or thing." Thus, particular usage patterns of an object by a particular user are not characteristics or properties or qualities of that object. The Examiner's argument is equivalent to stating that the UI of a particular software application used by myself and others (*e.g.*, Microsoft Word) has inherent properties of: (A) that I have previously used that UI at work and at home (e.g. on my laptop); (B) that another user (*e.g.*, an Examiner) has used that UI at the Patent Office; etc. On the contrary, particular usage patterns may be characteristic of a particular user, but it is incorrect to assert that they are properties of a predefined UI. Thus, Applicants fail to understand the Examiner's assertion that prior usage or attributes of particular data presented could in any way reflect predefined UI properties, such as characteristics or parameters or qualities of the UI.

Accordingly, claim 1 is believed to be allowable over Carpenter for at least these reasons, as are the claims that depend from claim 1.

In a manner similar to claim 1, independent claim 40 as rejected also generally recites a method for characterizing multiple predefined UIs for presentation to a user, and further recites "characterizing [each of multiple predefined user interfaces] by determining an intended use of the predefined user interface; determining one or more user tasks with which the predefined user interface is compatible; and determining one or more computing device configurations with which the predefined user interface is compatible." However, as previously noted, Carpenter appears to fail to include any teaching, suggestion or motivation for characterizing a UI by determining corresponding I/O devices or other computing device configuration. The Examiner has asserted that lines 1-22 of column 9 (included below for reference purposes) teach each and every aspect of the recited claim limitations. However, Applicants can no find no suggestion or motivation for characterizing a user interface by determining device configuration with which the user interface is compatible, or that there is even the idea of any change in device

configuration in the cited passage. In contrast, Carpenter appears to suggest using different user interface elements in different situations, which is unrelated to device configuration.

> In the present example, upon acquisition of the location of the portable data processor as a patient's room, the portable data processor would display the user interface environment shown in FIG. 5. Because the portable data processor is located in a patient's room, icons of applications and data appropriate to the patient are made more accessible to the user. For example, as illustrated in FIG. 5, the data clipboard is displayed with information specific to the patient. Furthermore, icons reflecting applications which may be used in a patient's room, such as the EKG icon or the file drawer icons of FIG. 5 are made available to the user. These icons would access applications such as an EKG history of the patient or a database of the patient's medical history. The user interface environment has, therefore, been modified to make location sensitive information and applications more accessible to the user. Likewise, the previous icons of the supply room or the emergency room have been removed from the user interface environment and made less accessible as they are not appropriate for the user's present location. (Carpenter 9:3-22)

Therefore, for the reasons previously discussed with respect to claim 1 regarding the failure of Carpenter to suggest or motivate any characterizing of properties of predefined UIs, as well as for this additional reason, claim 40 is allowable over Carpenter, as are the claims that depend from claim 40. If the Examiner maintains this rejection, Applicants request that the Examiner indicate with specificity what computing device configuration is shown in this passage.

Similarly, each of other of the pending independent claims is allowable over Carpenter for similar reasons related to characterizing UI properties and using those UI properties, as well as for additional reasons specific to those claims. For example, claim 20 recites, "a computing device . . . performing a method comprising: for each of multiple predefined user interfaces, characterizing properties of the predefined user interface." Claims 24 and 26 recite claim elements similar to claim 20. Similarly, independent method claim 27 generally recites characterizing properties of multiple predefined UI elements, and further generally recites generating an appropriate UI for presentation to a user based on current needs of the user. Moreover, independent claim 68 similarly recites claim elements related to characterizing UI elements. Thus, each of these independent claims are allowable for similar reasons to those of claim 1, as are the claims that depend from these claims.

Claim 33 generally recites using multiple types of information about a current context of the user to select an appropriate one of multiple user interfaces, and in particular recites "without user intervention, determining that the current context has changed in such a manner that the first user interface is not appropriate for the user, the changed context including multiple of a change in a current location of the user, a change in a current mental state of the user, and a change in one or more devices currently available to the user; and selecting a second user interface that is appropriate for the user based at least in part on the current context". However, Carpenter appears to lack any teaching or suggestion to determine, *without user intervention*, information about "a change in a current mental state of the user" or about "a change in one or more devices currently available to the user." With respect to the current mental state of the user, the Examiner has admitted that Carpenter discloses that *user input is made by the user* in response to user options presented to the user, thus determining the current mental state of the user. (Office Action dated August 23, 2005, pg. 14, emphasis added). Therefore, even if the Examiner is correct, the determination that the current mental state of the user has changed is not without user intervention, since it is explicitly based on user input. Similarly, while the portion of Carpenter cited by the Examiner related to a change in a device generally discloses that Carpenter's techniques may be used on various portable data processors, it does not disclose determining that a new device is currently available to the user and selecting a second user interface that is appropriate based at least in part on the change in available devices. Thus, for at least this reasons, claim 33 is allowable over Carpenter, as are each of the claims that depend from claim 33.

In addition, other pending claims recite a variety of additional claim elements not taught, suggested, or motivated by Carpenter. Claim 44 also generally recites "dynamically determining one or more current characteristics of a user interface that is currently appropriate to be presented to the user, the determining based at least in part on the current context." However, as previously noted, Carpenter does not teach, suggest or motivate such determining of characteristics of a user interface. Thus, for at least this reason, claim 44 is allowable over Carpenter, as is claim 54 that recites similar claim elements. Furthermore, claim 48 recites dynamically determining current UI characteristics "based at least in part on a current task being performed by the user." While Carpenter might suggest associating a particular UI with a particular location at which a task happens to occur, there is no suggestion or motivation for

determining the current task, nor for determining UI characteristics based on that task. Similarly, claim 51 recites dynamically determining current UI characteristics "based at least in part on current I/O devices that are available to the computing device." However, as previously noted, Carpenter does teach, suggest, or motivate any change in the I/O devices available to the user, nor any UI characteristic determination based on such changes. Thus, for at least these reasons, claims 44, 48, 51 and 54 are each allowable over Carpenter, as are the claims that depend from these claims.

Claim 57 recites "dynamically determining a level of attention which the user can currently give to the user interface; and dynamically determining one or more current characteristics of a user interface that is currently appropriate to be presented to the user based at least in part on the determined level of attention." However, Carpenter does not teach, suggest, or motivate determining the current level of attention the user can currently give to the user interface, and thus claim 57 is patentable over Carpenter for at least that reason. Claim 65 recites "retrieving one or more definitions for dynamically adapting available user interface elements to a type of computing device; and selecting one of the retrieved definitions based on current conditions so that available user interface elements can be adapted to the type of the computing device so as to generate a user interface that is appropriate to be presented to the user." Claim 62 recites "retrieving one or more definitions for dynamically combining available user interface elements in an appropriate manner so as to satisfy current needs." The Examiner has indicated that this limitation is taught in Carpenter since a pre-selected group of application icons could be selected as the user interface environment. (Carpenter 4:53-58) However, even if a pre-selected group of application icons were a "user interface" (rather than a "user interface environment," as explicitly defined by Carpenter), when a pre-selected group of application icons is selected, various user interface elements are not dynamically combined based on the current needs of the user; instead the pre-selected group of icons can either be present in its entirety or not at all. Thus, for these reasons as well, claims 57, 62 and 65 are each allowable over Carpenter, as are each of the claims that depend from those claims.

The pending dependent claims include the features of those claims from which they depend, and are thus allowable for the same reasons as those claims. Moreover, the pending dependent claims also recite additional features lacking in the cited references, and are thus

allowable on the basis of those features as well, although these additional features are not enumerated here for the sake of brevity.

Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Thus, Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 694-4815.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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